IN THE CLAIMS:

The status and content of each of the claims follows. No amendments are made by the present paper.

1. (previously presented) A method of displaying an image frame by projection in three dimensions (3D) or in two dimensions (2D) with a projection system, said method comprising:

selecting between a 2D mode of operation and a separate 3D mode of operation for said projection system;

generating and projecting a left image sub-frame and a right image sub-frame during a frame period if said 3D mode of operation for said projection system is selected; and

generating and projecting only a 2D image frame during said frame period if said 2D mode of operation for said projection system is selected;

wherein said left image sub-frame defines a visual perspective of a left eye and said right image sub-frame defines a visual perspective of a right eye.

2. (previously presented) The method of claim 1, wherein generating said left and right image sub-frames comprises:

generating left and right image sub-frame data defining said left and right image sub-frames;

storing said left image sub-frame data in a first buffer;

storing said right image sub-frame data in a second buffer; and

controlling a spatial light modulator with said left and right image sub-frame data in said first and second buffers to generate said left and right image sub-frames.

3. (original) The method of claim 2, wherein a single buffer unit comprises said first and second buffers.

4. (previously presented) The method of claim 1, wherein generating said 2D image frame comprises:

generating 2D image frame data defining said 2D image frame;

storing said 2D image frame data in a buffer; and

controlling a spatial light modulator with said 2D image frame data in said buffer to generate said 2D image frame.

5. (original) The method of claim 1, further comprising:

dividing said frame period into a first sub-frame period and a second sub-frame period;

displaying said left image sub-frame during said first sub-frame period; and

displaying said right image sub-frame during said second sub-frame period.

6. (original) The method of claim 1, further comprising:

dividing said frame period into a number of sub-frame periods;

displaying said left image sub-frame during one or more of said sub-frame periods; and

displaying said right image sub-frame during one or more of said sub-frame periods; wherein said left and right image sub-frames are displayed in an interleaved manner.

7. (original) The method of claim 1, further comprising viewing said left and right image sub-frames through glasses comprising a left lens configured to allow a left eye to only perceive said left image sub-frame and a right lens configured to allow a right eye to only perceive said right image sub-frame.

8. (original) The method of claim 1, wherein said left image sub-frame comprises a first group of colors and said right image sub-frame comprises a second group of colors distinct from said first group of colors.

9. (original) The method of claim 8, wherein said 2D image frame comprises one or more of said colors in said first and second groups of colors.

10. (original) The method of claim 8, wherein said first group of colors comprises two or more colors and said second group of colors comprises two or more colors.

11. (original) The method of claim 8, wherein said first group of colors comprises red, green, and blue and said second group of colors comprises cyan, yellow, and magenta.

12. (original) The method of claim 8, further comprising generating said colors in said first and second groups of colors with a sequential color device.

13. (original) The method of claim 8, further comprising generating said colors in said first and second group of colors with a scrolling color device.

14. (original) The method of claim 8, further comprising generating said colors in said first and second groups of colors with a parallel color device.

15. (original) The method of claim 8, further comprising generating said colors in said first and second groups of colors with a diffractive light device.

16. (original) The method of claim 15, further comprising notch filtering light incident upon said diffractive light device.

17. (original) The method of claim 15, further comprising notch filtering light reflecting from said diffractive light device.

18. (original) The method of claim 1, wherein said left image sub-frame and said right image sub-frame have differing polarizations.

19. (previously presented) A method of displaying an image in three dimensions during a frame period, said method comprising:

generating a left image sub-frame and a right image sub-frame, said left image sub-frame defining a visual perspective of a left eye and said right image sub-frame defining a visual perspective of a right eye for said image;

displaying said left image sub-frame with an electronic display system, wherein said electronic display system outputs a display of said left image sub-frame utilizing a first plurality of colors; and

displaying said right image sub-frame with said display system, wherein said display system outputs a display of said right image sub-frame utilizing a second plurality of colors;

wherein said first plurality of colors is distinct from said second plurality of colors.

20. (original) The method of claim 19, wherein said first plurality of colors and said second plurality of colors comprise different sets of primary colors.

21. (original) The method of claim 19, further comprising:

dividing said frame period into a plurality of sub-frame time periods including at least one left sub-frame time period and one right sub-frame time period;

displaying said left image sub-frame during said at least one left sub-frame time period; and

displaying said right sub-frame image during said at least one right image sub-frame time period.

22. (original) The method of claim 19, wherein said left image sub-frame is displayed during a first portion of said frame period and said right image sub-frame is

displayed during a second portion of said frame period, wherein said first portion and said second portion are overlapping.

23. (original) The method of claim 19, wherein said first plurality of colors includes red, green, and blue.

24. (previously presented) The method of claim 25, wherein said second plurality of colors includes red, green, and blue.

25. (original) The method of claim 19, wherein said first plurality of colors includes cyan, yellow, and magenta.

26. (original) The method of claim 19, wherein said second plurality of colors includes cyan, yellow, and magenta.

27. (previously presented) A display system with a selectable mode of operation for displaying an image frame in three dimensions (3D) or in two dimensions (2D), said system comprising:

a spatial light modulator; and

an image processing unit configured to control said spatial light modulator in a selected mode of operation which is either a 3D mode of operation or a 2D mode of operation;

wherein if said selected mode of operation is said 3D mode of operation, said image processing unit outputs to said spatial light modulator a left image sub-frame carrying a left eye perspective and a right image sub-frame carrying a right eye perspective during a frame period and, if said selected mode of operation is said 2D mode of operation,
said image processing unit outputs to said spatial light modulator a 2D image frame to be displayed on a viewing surface during said frame period.

28. (original) The system of claim 27, wherein said image processing unit comprises:

a 3D coordinate conversion function configured to generate left and right image sub-frame data defining said left and right image sub-frames;

wherein said spatial light modulator is configured to generate said left and right image sub-frames in accordance with said left and right image sub-frame data.

29. (original) The system of claim 28, wherein said image processing unit further comprises:

a 2D coordinate conversion function configured to generate 2D image frame data defining said 2D image frame;

wherein said spatial light modulator is further configured to generate said 2D image frame in accordance with said 2D image frame data.

30. (original) The system of claim 29, further comprising:

a first buffer for storing said left image sub-frame data to be used by said spatial light modulator to generate said left image sub-frame;

a second buffer for storing said right image sub-frame data to be used by said spatial light modulator to generate said right image sub-frame; and

a third buffer for storing said 2D image frame data to be used by said spatial light modulator to generate said 2D image frame.

31. (original) The system of claim 30, wherein a single buffer unit comprises said first, second, and third buffers.

32. (original) The system of claim 30, wherein a single buffer unit comprises said first and second buffers.

33. (original) The system of claim 27, wherein said frame period comprises a first sub-frame period and a second sub-frame period, said left image sub-frame being displayed during said first sub-frame period and said right image sub-frame being displayed during said second sub-frame period.

34. (original) The system of claim 27, wherein said frame period comprises a number of sub-frame periods, wherein said left and right image sub-frames are each displayed during one or more of said sub-frame periods in an interleaved manner.

35. (original) The system of claim 27, further comprising glasses, said glasses comprising:

a left lens configured to allow a left eye of a user of said glasses to only perceive said left image sub-frame; and

a right lens configured to allow a right eye of a user of said glasses to only perceive said right image sub-frame.

36. (original) The system of claim 27, wherein said left image sub-frame comprises a first group of colors and said right image sub-frame comprises a second group of colors distinct from said first group of colors.

37. (previously presented) The system of claim 36, wherein said 2D image frame comprises one or more of said colors in said first and second groups of colors.

38. (previously presented) The system of claim 36, wherein said first group of colors comprises two or more colors and said second group of colors comprises two or more colors.

39. (previously presented) The system of claim 36, wherein said system further comprises a sequential color device configured to generate said colors in said first and second groups of colors.

40. (original) The system of claim 39, wherein said sequential color device is a color filter wheel.

41. (previously presented) The system of claim 36, wherein said system further comprises a parallel color device configured to generate said colors in said first and second groups of colors.

42. (previously presented) The system of claim 36, wherein said spatial light modulator comprises a diffractive light device configured to generate said colors in said first and second groups of colors.

43. (original) The system of claim 42, further comprising one or more notch filters configured to notch filter light incident upon said diffractive light device.

44. (original) The system of claim 42, further comprising one or more notch filters configured to notch filter light reflected from said diffractive light device.

45. (original) The system of claim 27, wherein said mode of operation is selected by a user of said display system.

46. (original) The system of claim 27, wherein said mode of operation is selected automatically without user intervention.

47. (original) The system of claim 27, wherein said spatial light modulator is selected from the group consisting of an analog based light modulator, a pulse-width modulation based light modulator, a liquid crystal display (LCD) panel, a liquid crystal on silicon (LCOS) device, a diffractive light device (DLD), and an array of micromirrors.

48. (previously presented) A 3D imaging device, comprising:

an image processing unit configured to generate image sub-frame data; and

a color modulator electronically coupled to said image processing unit and configured to generate a plurality of image sub-frames based on said image sub-frame data;

wherein said color modulator uses a first plurality of colors to output at least one image sub-frame of said plurality of image sub-frames and a second plurality of colors, distinct from said first plurality of colors, to output at least one other image sub-frame of said plurality of image sub-frames.

49. (original) The 3D imaging device of claim 48, wherein said first plurality of colors and said second plurality of colors comprise different sets of primary colors.

50. (original) The 3D imaging device of claim 48, further comprising one or more image sub-frame buffers for storing said image sub-frame data generated by said image processing unit.

51. (original) The 3D imaging device of claim 48, further comprising:

a light source for illuminating said color modulator; and

at least one notch filter disposed between said light source and said color modulator.

52. (original) The 3D imaging device of claim 48, further comprising at least one notch filter disposed between said color modulator and a viewing surface.

53. (original) The 3D imaging device of claim 48, further comprising:

at least one set of lenses having a first and second lens wherein said first lens filters out said first plurality of colors and said second lens filters out said second plurality of colors.

54. (original) The 3D imaging device of claim 48, wherein said color modulator displays said at least one image sub-frame and said at least one other image sub-frame buffer during one frame period.

55. (original) The 3D imaging device of claim 48, wherein said color modulator displays said at least one image sub-frame and said at least one other image sub-frame at the same time during one frame period.

56. (original) The 3D imaging device of claim 48, wherein said color modulator includes an array of pixels and is configured to display said at least one image sub-frame and said at least one other image sub-frame in alternating adjacent pixels during at least a portion of one frame period.

57. (original) The 3D imaging device of claim 48, wherein said imaging processing unit is further configured to generate 2D image frame data, wherein said color modulator generates a 2D image frame based on said 2D image frame data.

58. (original) The 3D imaging device of claim 57, wherein said 2D image frame includes said first set of primary colors and said second set of primary colors.

59. (withdrawn) A set of eyeglass lenses having a first and second lens wherein said first lens passes a first plurality of colors and filters out a second plurality of colors and said second lens passes said second plurality of colors and filters out said first plurality of colors.

60. (withdrawn) The set of eyeglass lenses of claim 59, wherein said first plurality of colors and said second plurality of colors are each a set of primary colors.

61. (previously presented) A system for displaying an image frame by projection in three dimensions (3D) or in two dimensions (2D) with a projection system, said system comprising:

means for selecting between a 2D mode of operation and a separate 3D mode of operation for said projection system;

means for generating and projecting a left image sub-frame and a right image sub-frame if said 3D mode of operation is selected for said projection system; and

means for generating and projecting a 2D image frame if said 2D mode of operation is selected for said projection system;

wherein said left and right image sub-frames are left and right perspectives during a frame period if said 3D mode of operation is selected and said 2D image frame is displayed during said frame period if said 2D mode of operation is selected;

wherein said 2D image frame does not comprise sub-frames having different perspectives.

62. (original) The system of claim 61, wherein said means for generating said left and right image sub-frames comprises:

means for generating left and right image sub-frame data defining said left and right image sub-frames;

means for storing said left image sub-frame data in a first buffer;

means for storing said right image sub-frame data in a second buffer; and

means for controlling a spatial light modulator with said left and right image sub-frame data in said first and second buffers to generate said left and right image sub-frames.

63. (original) The system of claim 61, wherein said means for generating said 2D image frame comprises:

means for generating 2D image frame data defining said 2D image frame;

means for storing said 2D image frame data in a buffer; and

means for controlling a spatial light modulator with said 2D image frame data in said buffer to generate said 2D image frame.

64. (original) The system of claim 61, further comprising:

means for dividing said frame period into a first sub-frame period and a second sub-frame period;

means for displaying said left image sub-frame during said first sub-frame period; and

means for displaying said right image sub-frame during said second sub-frame period.

65. (original) The system of claim 61, further comprising:

means for dividing said frame period into a number of sub-frame periods;

means for displaying said left image sub-frame during one or more of said sub-frame periods; and

means for displaying said right image sub-frame during one or more of said sub-frame periods;

wherein said left and right image sub-frames are displayed in an interleaved manner.

66. (previously presented) A system for displaying an image in three dimensions during a frame period, said system comprising:

means for generating a left image sub-frame and a right image sub-frame, said left image sub-frame defining a visual perspective of a left eye and said right image sub-frame defining a visual perspective of a right eye for said image;

means for electronically displaying said left image sub-frame utilizing a first plurality of colors to compose the display of the left image sub-frame; and

means for electronically displaying said right image sub-frame utilizing a second plurality of colors to compose the display of the right image sub-frame;

wherein said first plurality of colors is distinct from said second plurality of colors.

67. (previously presented) The method of claim 1, wherein generating said left and right image sub-frames and said 2D image frame comprises:

storing said left and right image sub-frames in a first buffer; and

storing said 2D image frame data in a second buffer; and

controlling a spatial light modulator with data from either said first or second buffer depending on the selected mode of operation.